APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/519,666	03/06/2000	Richard Ian Taylor	1263.1195	8730

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EXAMINER
AZARIAN, SEYED H

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 08/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	09/519,666	TAYLOR, RICHARD IAN
Office Action Summary	Examiner	Art Unit
	Seyed Azarian	2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 June 2003* .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 March 2000* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

   a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)		4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)		5)☐ Notice of Informal Patent Application (PTO-152)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .		6)☐ Other: .

FINAL ACTION

RESPONSE TO AMENDMENT

1.   Applicant's amendment filed, 9/19/2003, has been entered and made of record.

2.   Applicants' arguments with regards to Claims 1-24 have been fully considered but they

are not persuasive in view of new ground of rejection necessitated by applicant's amendment.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-6, 8-14 and 16-26, are rejected under 35 U.S.C. 103(a) as being unpatentable

over Robert (U.S. patent 5,214,751) in view of Everett (U.S. patent 3,971,620).

Regarding claim 1, Robert discloses method for the temporal interpolation of images and

device for implementing this method comprising; an image registered for registering the input

images recorded at different times, (Fig. 14, column 19, lines 43-53, refer to inputs registers 120

to 123 which respectively store the four pairs of coordinates applied to the input terminal).

And a pixel value interpolator arranged to interpolate between pixel values of the

registered input images to generate pixel values for interpolated images form the same viewing

position and direction relative to scene for the image sequence (column 3, lines 24-32, refer to

interpolation of images for an interpolated luminance value for each pixel of an image called the

image to interpolated also Fig. 2, column 5, lines 25-36, refer to location and direction).

However Robert is silent about "fix position". On the other hand Everett teaches (Fig. 8

column 8, lines 7-19, position show in Fig. 8, thereby maintaining the image of the sun formed

by the telescope B in the "fix position").

Therefore it would have been obvious to one having ordinary skill in the art at the time of

the invention was made, to modify Robert invention according to the teaching of Everett because

it provides an improved astronomical which can be used non-observatory type building which

are comparatively inexpensive in that observatory-type and maintained for accuracy and better

result.

Regarding claim 2, Robert discloses apparatus, wherein the image registering unit

comprises (a) transformation calculator for calculating transformation to transform the input

images (column 11, lines 43-54, interpolated luminance value has been computed, then value of

the coordinate is "compared" and also column16, lines 39-51, refer to input of the multiplexed

and comparators 15 and 16).

A transformations applicator for using the transformations calculator to register the input

images, (column 16, lines 39-51 first input applied to a first input of the comparator 15 receives a

value of a function read from memory corresponding to the son pixel being processed and the

comparator 19 has a second input receiving a "threshold value" and comparators 15 and 16each

have a output connected to an input of the logic in order to validate).

Regarding claim 3, Robert discloses apparatus according to claim 2, wherein the

transformation calculator comprises a matcher to match features in the input images and a

calculator for calculating the transformations on the basis of the matched features, (Fig. Column

7, lines 3-13, the two base points A and B , selection of the best father pixel consists in

"comparing with another the values of pixels with pixels (refer to matching)).

Regarding claim 4, Robert discloses apparatus, wherein the transformation calculator

comprises an input signal processor for processing signals input by a user defining matching

features (column 11, lines 43-54, interpolated luminance value has been computed, then value of

the coordinate is "compared" (refer to matching) and also column16, lines 39-51, refer to input

of the multiplexed and comparators 15 and 16).

Regarding claim 5 and 13, Robert discloses apparatus, wherein the pixel value

interpolator is arranged to generate the pixel value using linear interpolation (column24, lines 48-

53, determining an interpolated luminance value for the pixel to be interpolated by computing a

linear combination).

Regarding claim 6, Robert discloses apparatus, wherein the pixel value interpolator is

arranged to generate pixel values for interpolated images to be displayed in the image sequence

in which each input image is to be displayed a plurality of consecutive times (column 24, line 67,

through column 25, line 3, applied to images by television image frames, and lines 8-11, the

invention is applicable in real time to standard changing devices for television frames, and to the

restitution of frames transmitted at a very low rate with suppression of a certain number of

frames).

Regarding claim 8, Robert discloses image processing apparatus for calculating

transformations to register input image with different viewing position (Fig. 1, column 4, lines

28-39, refer to different frames or references are differentiated by instants corresponding to the

frames and frames are supplied by a source of video signals such as a conventional television

camera).

And a pixel value interpolator for interpolating between the pixel values of the registered

input images to generate pixel values for interpolated images for the image sequence (column 3,

lines 24-32, refer to interpolation of images for an interpolated luminance value for each pixel of

an image called the image to interpolated).

Regarding claim 14, Robert discloses a method according to claim 9, wherein, in the step

of interpolating, pixel values are generated for interpolated images to be displayed in an image

sequence in which each input image is to be displayed a plurality of consecutive times (column

5, lines 1-9, refer to sequence of frame is displayed at regular "time intervals").

Regarding claim 17, Robert discloses a method according to claim 16, wherein, the signal

comprises image data (column 19, lines 25-35, refer to signal supplied by the sequencer in order

to read the luminance values (image data)).

Regarding claim 18, Robert discloses a method according to claim 16, further comprising

the step of recording the signal either directly or indirectly (column 21, lines 62-67, refer to

registers 165 to 168, are respectively connected to second inputs of the multipliers 161-164, and

the values of the logic signals respectively supplied by the comparators).

Regarding claim 20, Robert discloses an image processing method for generating data for

a time-lapse sequence of images, comprising, calculating transformations to register input

images recorded with different viewing positions and/or viewing directions, (see column 5, lines

25-36, refer to object in motion and velocity vector, it is represented by a series of pixels having

different coordinates).

Regarding claims 9-12, 16, 19 and 21-24, the arguments analogous to those presented for

claims 1, 3, 4, 6 and 8, are applicable.

5.   Claims 7 and 15, are rejected under 35 U.S.C. 103(a) as being unpatentable over as

applied to claims 1-6, 8-14 and 16-26 in view of Komiya et al (U.S. patent 6,205,259).

Regarding claim 7, Robert and Everett fails to discloses an "overlap detector and

interpolating between the pixel values in the area of overlap". On the other hand Komiya et al

teaches (Fig. 38 and 39 column 11, lines 1-12 also column 23, lines 49-66, changing the pixel

values that occurs in the overlap region due to the correlation and "interpolation" which

displacement detecting circuit 24 and the interpolation circuit 25).

Therefore it would have been obvious to one having ordinary skill in the art at the time of

the invention was made, to modify Robert and Everett invention according to the teaching of

Komiya et al because it is techniques by interpolating image data to provide an overlap relation

between two windows or images that are respectively assigned to video image processing which

can implements to in an motion picture for better result and accuracy.

Regarding claim 15, the arguments analogous to those presented for claim 7, is applicable.

Other prior art cited

6.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

U.S. patent (5,625,410) to Washing et al is cited for video monitoring and conferencing system.

U.S. patent (6,011,901) to Kirsten is cited for compressed digital video record and playback

system.

Conclusion

7.   Applicant's amendment necessitated the new ground (s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Contact Information

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Seyed Azarian whose telephone number is (703) 306-5907. The

examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m. If

attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Bhavesh Mehta, can be reached at (703) 308-5246.

Any response to this action should be mailed to:

> Assistant Commissioner for Patents
> Washington, D.C. 20231

Or faxed to:

> (703) 872-9314, (*informal* or *draft* communications, should be clearly labeled to
> expedite delivery to examiner).

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
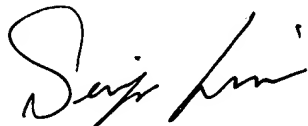Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to

T.C. customer service office whose telephone number is (703) 306-0377.

Seyed Azarian

Patent Examiner

Group Art Unit 2625

August 7, 2003

Jayanti K. Patel
Primary Examiner